Title: METHOD OF VACCINATION

IN THE CLAIMS

Please amend the claims as follows:

- 1. (Cancelled)
- 2. (Currently Amended) A method of expressing an antigenic molecule peptide on the surface of a viable cell, said method comprising:

contacting said cell with a <u>said antigenic</u> molecule comprising the antigenic peptide and with a photosensitizing agent, wherein said peptide <u>molecule</u> and said agent are each taken up into an intracellular membrane-restricted compartment of said cell;

irradiating said cell with light of a wavelength effective to activate the photosensitizing agent, such that the membrane of said intracellular compartment is disrupted, releasing said peptide molecule into the cytosol of the cell, without killing the cell by irradiation;

wherein, said released <u>antigenic molecule</u> peptide, or a part thereof of sufficient size to generate an immune response, is subsequently presented on the surface of said cell by a class I or II MHC molecule;

wherein presentation of the <u>antigenic molecule</u> peptide, or part thereof, on the surface of said cell results in stimulation of an immune response; and

wherein the photosensitizing agent is selected from the group consisting of a porphyrin, phthalocyanine, purpurin, chlorin, benzoporphyrin, naphthalocyanine, cationic dye, and tetracycline, and a lysosomotropic weak base.

- 3. (Cancelled)
- 4. (Currently Amended) The method of claim <u>2.3</u> wherein the antigenic molecule is a vaccine antigen or vaccine component.
- 5. (Cancelled)

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6. (Previously Presented) The method of claim 2, wherein the cell is an antigen presenting cell selected from the group consisting of a lymphocyte, dendritic cell, macrophage and cancer cell.

7. (Cancelled)

- 8. (Previously Presented) The method of claim 2 wherein the photosensitizing agent is meso-tetraphenylporphine with 4 sulfonate groups (TPPS₄), meso-tetraphenylporphine with 2 sulfonate groups on adjacent phenyl rings (TPPS_{2a}), or aluminum phthalocyanine with 2 sulfonate groups on adjacent phenyl rings (AlPcS_{2a}).
- 9. (Currently Amended) The method of claim 2, wherein the antigenic peptide molecule and/or photosensitizing agent is bound to one or more targeting agents or carrier molecules.
- 10. (Previously Presented) The method of claim 2, wherein said method is carried out *in vitro* or *in vivo*.
- 11-21. (Cancelled).
- 22. (Currently Amended) A method of expressing an antigenic <u>molecule</u> peptide on the surface of a cell capable of antigen presentation, said method comprising:

contacting said cell with <u>aan antigenic</u> molecule <u>comprising the antigenic peptide</u> and with a photosensitizing agent, wherein said <u>peptide</u> <u>molecule</u> and said agent are each taken up into an intracellular membrane-restricted compartment of said cell; and

irradiating said cell with light of a wavelength effective to activate the photosensitizing agent, such that the membrane of said intracellular compartment is disrupted, releasing said peptide molecule into the cytosol of the cell, without killing the cell by irradiation,

wherein, said released peptide molecule, or a part thereof of sufficient size to generate an immune response, is subsequently presented on the surface of said cell by a class I or II MHC molecule, and

wherein the photosensitizing agent is selected from the group consisting of a porphyrin, phthalocyanine, purpurin, chlorin, benzoporphyrin, naphthalocyanine, cationic dye, and tetracycline, and a lysosomotropic weak base.

23. (Cancelled)

24. (New) A method of expressing an antigenic molecule or a part thereof on the surface of a viable antigen presenting cell, said method comprising:

contacting said cell with the antigenic molecule and with a photosensitizing agent, wherein said molecule and said agent are each taken up into an intracellular membrane-restricted compartment of said cell;

irradiating said cell with light of a wavelength effective to activate the photosensitizing agent, such that the membrane of said intracellular compartment is disrupted, releasing said molecule into the cytosol of the cell, without killing the cell;

wherein, said released molecule, or a part thereof of sufficient size to generate an immune response, is subsequently presented on the surface of said cell by a class I or II MHC molecule;

wherein presentation of the molecule, or part thereof, on the surface of said cell results in stimulation of an immune response; and

wherein the photosensitizing agent is selected from the group consisting of a meso-tetraphenylporphine with 4 sulfonate groups (TPPS₄), meso-tetraphenylporphine with 2 sulfonate groups on adjacent phenyl rings (TPPS_{2a}), or aluminum phthalocyanine with 2 sulfonate groups on adjacent phenyl rings (AlPcS_{2a}).

- 25. (New) The method of claim 24, wherein the antigen presenting cell is selected from the group consisting of a lymphocyte, dendritic cell, macrophage and cancer cell.
- 26. (New) The method of claim 24, wherein the antigenic molecule and/or photosensitizing agent is bound to one or more targeting agents or carrier molecules.
- 27. (New) The method of claim 24, wherein said method is carried out in vitro or in vivo.

AMENDMENT AND RESPONSE UNDER 37 CFR § 1.111

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- 28. (New) The method of claim 2, wherein at least 90% of the cells are not killed.
- 29. (New) The method of claim 2, wherein at least 95% of the cells are not killed.